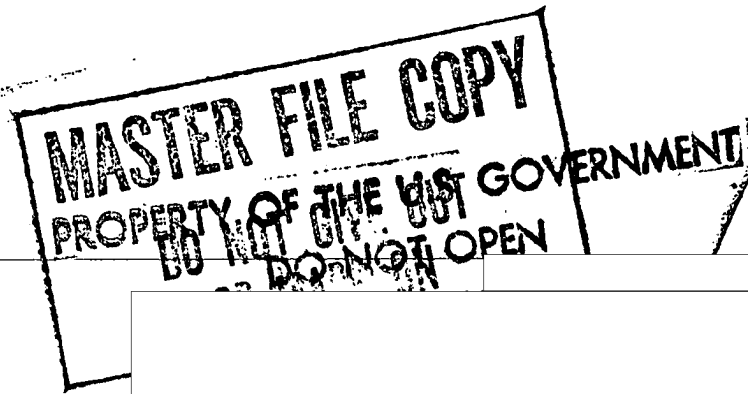




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Algeria: Air Force Modernization

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An Intelligence Assessment

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NESA 83-10214C
IS 83-10107C

September 1983

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Algeria: Air Force Modernization

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An Intelligence Assessment

This paper was prepared by [redacted] Office
of Near Eastern and South Asian Analysis, and

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[redacted] It was
coordinated with the Directorate of Operations. [redacted]

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Comments and queries are welcome and may be
directed to the Chief, Arab-Israeli Division, NESAs,

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**Algeria:
Air Force
Modernization**

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Key Judgments

*Information available as
of 1 August 1983
was used in this report.*

An Air Force modernization program launched by the Algerians eight years ago as part of a general force improvement effort has enabled Algeria to maintain a lead over its chief regional rival, Morocco.

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The Algerians have procured advanced aircraft for most combat and transport squadrons. As they acquire additional replacement helicopters and new basic trainers over the next two years, most of the force probably will comprise equipment acquired after 1975:

- Although the Algerians generally have emphasized quality over quantity in aircraft acquisition, they still maintain a 3 to 1 numerical advantage over Morocco.
- The quantitative advantages are offset somewhat by shortages of trained manpower and by maintenance problems.
- Moroccan and Algerian pilots are probably about evenly matched in overall skills, although the Moroccans' experience in the Western Sahara conflict has better prepared them for certain combat functions.

The Soviet Union has figured prominently in the Algerian Air Force's reequipment efforts, and Soviet aircraft predominate in the Air Force today as they have since the early 1960s. Algiers, however, has become more interested in seeking non-Soviet armaments as the Soviets' longstanding competitive edge in arms sales, primarily attributable to financing, has diminished. By diversifying, Algeria hopes gradually to reduce Soviet leverage and to get the best quality merchandise available:

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- The new resolve has resulted in Algeria's purchase of US C-130 aircraft and an interest in further military purchases from the United States. This promises to open new channels for improving Algerian-US relations.
- The Soviet Union is too firmly entrenched as a supplier of combat aircraft, however, for any sweeping change in procurement policy until well into the 1990s, unless the Algerian Government is willing to pay extremely high costs to reequip.

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Figure 1
Military or Joint-Use Airfields



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Algeria: Air Force Modernization

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Algeria accelerated modernization of its Air Force in the mid-1970s, primarily because it feared that the dispute between Morocco and Algerian-backed Polisario Front guerrillas over Western Sahara might escalate into a regional conflict, according to US Embassy reports. The Algerians also were worried that Morocco's own force improvement program, announced in 1974, could give a qualitative edge to their chief rival. In addition, Algerian President Boumedienne probably viewed the military buildup under way in Libya as a potential threat to Algeria's position as the strongest military power in northwest Africa. Finally, Algeria's participation in the Arab-Israeli war of October 1973, when it sent three squadrons of combat aircraft to Egypt, reinforced assessments by military planners that modernization programs were long overdue because of the display of technologically superior weaponry.

Despite the Air Force's secondary position to the Army—especially in a country where the Army has such a prominent role in the government—the Air Force has managed to achieve most of its main procurement goals since 1975. The Air Force, under the command of Col. Hamid Abdelli, a modern and imaginative leader, is now striving to correct weaknesses in its performance. In this quest it has become increasingly willing and able to use non-Soviet resources, including manpower and technology.

Sources of Assistance

Soviet Sales. In the early 1960s the Algerians turned to the Soviets as their primary source of military equipment and training, largely because they were unable to find other suppliers willing to match low Soviet prices and generous repayment terms.

toward the end of the decade they began to look for other sources of supply. They had little luck, apart from a deal with France in 1969 for Fouga Magister trainers.

After the October 1973 Arab-Israeli war, the Algerians recognized the need for urgent force improvements but found the Soviets the only supplier offering quick delivery and easy financing. With some reluctance, Algeria concluded a new series of contracts with the Soviets between 1975 and 1980,

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The agreements, which provided materiel for all services, yielded two new types of fighter aircraft for the Air Force—MIG-23s and MIG-25s. Algeria also received more advanced models of MIG-21 fighters already in the inventory and was the first country outside the Warsaw Pact to receive MI-24 attack helicopters.

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Certain features of the often difficult arms negotiations with Moscow made Soviet arms packages less attractive to Algeria than they had once been.

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To the Algerians, the toughened credit terms—necessitated by Moscow's increased need for hard currency—significantly diminished the Soviets' competitiveness with the West.

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The Algerians were also peeved that the USSR, despite its stiffer terms, still attempted to use its preeminent position as an arms supplier to gain special privileges.

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Non-Soviet Purchases. Acquisitions of non-Soviet aircraft for the Air Force, meanwhile, had been at relatively low levels, with the exception of the acquisition of the French Magister trainers. During the late 1970s the Algerians' interest in Western purchases was again stimulated, and they paid \$3.5 million in 1978 for six US T-34C trainers while adding more Dutch F-27 transports.

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Figure 3. Algerian F-27 transport.



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Algeria has since become even more determined to move away from Soviet-made armaments, [redacted]

[redacted] The vivid memory of the Egyptian military's travails after President Sadat expelled the Soviets serves as a reminder that Moscow could hurt the Algerians by cutting off shipments of spare parts and curbing maintenance support. [redacted]

According to US Embassy sources, since 1980 Algeria has indicated that it has come to view the United States as a feasible alternative source of aircraft, although by no means a substitute for the Soviets. The Algerians recognize that they have little chance of

receiving approval to buy US fighters and fighter-bombers or attack helicopters and have tailored their arms requests accordingly. In December 1980 Algeria spent \$3 million for two US Super King 200T maritime reconnaissance aircraft, which were fitted in France with specialized surveillance gear at a cost of \$14 million.¹ [redacted]

In 1981 and 1982 Algeria signed contracts for a total of 14 C-130s, including four stretch models, worth some \$214 million. According to the US defense attache, the Air Force intended to start negotiations in August 1983 for three more C-130s. According to the US Embassy in Algiers, the Algerian Ministry of Defense also concluded a \$51 million contract with Gulfstream in 1982 for three G-III executive jets for the presidential fleet, with deliveries slated to begin in mid-1983. [redacted]

¹ According to the US defense attache in Algiers, these Air Force aircraft will eventually be transferred to the Algerian Navy. [redacted]

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Algerian defense delegations have looked at the product lines of several other non-Soviet aircraft producers. They have focused on trainers and helicopters because those are the categories that the Air Force believes are most in need of renovation:

- The Algerians are still mulling over which helicopters they want. In 1981 the Algerians talked with Italy about the purchase of 20 Agusta Bell 206 and 10 A-109 helicopters, according to an informant of the US Embassy in Algiers. [REDACTED]

- The Algerians evidently favor the British-made Hawk trainer, even though it reportedly is more expensive than other competitors. [REDACTED]

Other trainers that have been in the running include French Alpha Jets, Czechoslovak L-39s, Italian MB-339s and SF-260s, and Chinese MIG-17s. [REDACTED]

The Algerian Air Force has increasingly looked to Western and Third World countries for a variety of endeavors:

- It has become more interested in general training, in contrast to the earlier practice of sending crews to train specifically on newly purchased items. [REDACTED]

- Algeria has hired Pakistani advisers to meet two priority objectives: to secure English speakers—Algeria has decided all air training will be in that language—and to provide exposure to more innovative tactics. [REDACTED]

- The Algerians have also sought help to upgrade Soviet weapons. According to the US Embassy in Algiers, the Algerians hinted in 1982 that they wanted US help to modify Soviet-supplied air-to-air missiles to improve range and accuracy. [REDACTED]

Force Modernization

The Air Force's procurement policy has emphasized improving the quality of equipment in service, rather than buying large quantities as the Libyans are doing. Colonel Belloucif, secretary general of the Ministry of Defense, effectively summarized the Algerians' approach when he likened the Algerian armed forces to a swarm of bees as opposed to a bunch of flies: Algiers wanted a small potent force rather than a large ineffective one. [REDACTED]

New arms deals have enabled the Air Force to make sweeping improvements in the inventory during the past eight years:

- *Fighter-bombers.* Successors to 1950s-vintage SU-7 Fitters and MIG-17 Frescos in ground attack units—MIG-23 Flogger F and H models—offer much improved capabilities in payload, range, and avionics. The Fresco, for instance, could deliver 500 kilograms of bombs to a target 70 nautical miles distant on a ground attack mission, whereas the Flogger F can carry 1,800 kilograms of bombs a distance of 180 nautical miles on the same mission profile.
- *Fighters.* Algeria has gradually phased out the early 1960s model MIG-21 Fishbed D interceptors in favor of the more versatile Fishbed L/N, the MIG-23 Flogger B, and the MIG-25 Foxbat A aircraft. Introduction of the late model MIG-21s into the

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inventory has enhanced the service's capabilities for lower altitude maneuvers and generally improved overall combat effectiveness because of a better air intercept radar, new air-to-air missiles, a more powerful engine, and the addition of internal cannon. The Floggers have an all-weather air intercept

capability and longer combat radius. Addition of the Foxbat permits the Air Force to extend high-altitude air defense coverage and patrol ranges.

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- *Helicopters.* Reports of procurement plans suggest that Algeria will not seek replacement for its MI-6 Hook heavy-lift helicopters, probably because its requirements are better satisfied through new fixed-wing transport. MI-8 Hip helicopters have largely replaced the MI-4 Hound medium transport helicopters, which had significantly smaller cargo and

troop capacities. In addition, the Air Force obtained attack helicopters for the first time in 1978. The heavily armed MI-24 Hinds, which can carry guns, rockets, antitank guided missiles, and bombs, have increased the Algerians' antiarmor capabilities.

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• *Trainers.* The Soviet YAK-18 Max was the Air Force's primary trainer and the French Fouga Magister its basic trainer aircraft in 1975. The combat-capable Magisters still await replacement,

but US-built Beechcraft aircraft—T-34C Mentors and Musketeers—now are flown by pilot cadets instead of the Soviet Max.

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• *Transports.* A few Soviet AN-12 Cubs that entered service in Algeria in the late 1960s remain in the inventory, but the Air Force plans to retire them soon, replacing them with US-made C-130s. Algerians in the air transport wing have said they were particularly unhappy with the Soviet transport's maintenance record and the USSR's operational

support for those aircraft. According to a US observer, most of the AN-12s are well worn, with nearly 2,000 flight hours, and the aircraft would have to be rebuilt if they were to remain in active status. [REDACTED]

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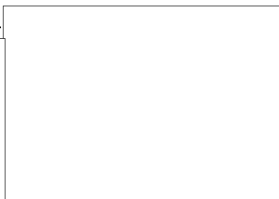
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Algerian Airbases. At the same time that Algiers was upgrading the quality of Air Force inventories, it embarked on an extensive base construction and improvement program. In the initial phases, the Air Force concentrated on building and modernizing bases along Algeria's western frontier to enhance operational flexibility in the event of a flareup in the war in Western Sahara:

- In the strategically important Tindouf area—closest to Western Sahara and the home base of units that would be the first committed in a conflict with Morocco—the Algerians have built three new dispersal airfields since 1975.



- The Tindouf installations are backed up by three airfields along the road to Bechar that also have been improved since 1975.

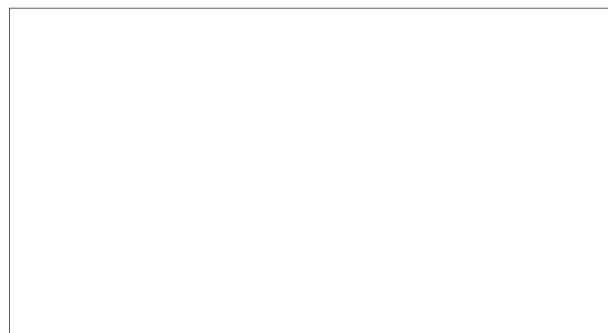


Most of the 12 bases where aircraft are stationed have undergone some type of improvement in the past eight years.



In January 1983 Algeria signed a contract with Lockheed for the first phase of a two-part plan for the renovation of the base at Boufarik. According to the US Embassy in Algiers, the initial work by the US corporation, at a cost of \$15 million, is to include establishing a maintenance organization on base, designing 18 new buildings, and making models of the proposed improvements. The contract for phase two, the actual construction, is estimated to be worth about \$350 million, although Algerian contractors probably

will be hired for some of the work. Planned improvements call for tripled fuel storage capacity, two new large hangars, a lengthened main runway, and an increased electrical power supply.



Operation of the Force

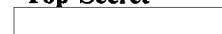


According to the US defense attache in Algiers, the Air Force lacks enough pilots to fly all the new aircraft. He reported that the Air Force could field only seven fully trained C-130 crews in March 1983. Training of other crews was delayed because F-27 transport pilots who were to take over the C-130s could not begin the course until their replacements, AN-12 crews, were released from flying the soon-to-be-retired Soviet transports.



As further evidence, the defense attache stated that he was told by a reliable reporter that pilot recruitment programs have not yielded sufficient personnel. The attache's source surmised that the Air Force has had to lower its personnel standards in order to compensate, and that the ratio in 1970 of 1 in 10 cadets being selected for fighter pilot training has been reduced. Other sources of the attache have conjectured that getting enough people has not been a

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big problem for the Air Force but that assuring quality performance has. Two of his contacts estimated that perhaps no more than one-third of all pilots are fully checked out on their aircraft. [REDACTED]

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We have little information on the competence of the Air Force's maintenance groups, but the experience with C-130s may well be a measure of service-wide capabilities. A qualified observer of the C-130 operations asserted that maintenance was the weak point of the Air Force's transport fleet. There were too few qualified people to do the job, and a bias against doing manual labor tended to "make everyone . . . a supervisor." When the first C-130s arrived, maintenance teams initially had to work shifts to keep the aircraft flying and were still unable to meet deadlines. A 600-hour check, for instance, took up to five days to complete, when it should have required no more than two days. [REDACTED]

Aircraft requiring extensive repairs or overhauls must be sent abroad, although the Algerians have become increasingly interested in doing more of the maintenance in country. They evidently believe the establishment of a C-130 depot maintenance facility in Algeria would be a major step in that direction. According to the US Embassy in Algiers, the Algerian Air Force commander has indicated that he plans to develop a facility that would service both civil and military transports. Over time he hopes the Algerians will be able to rebuild and redesign aircraft engines, although for the near term, the Air Force would undertake less complex tasks, such as making parts, repairing airframes, and fixing navigation and communications equipment. [REDACTED]

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Assessment of Strengthened Airpower

Algerian defense planners evidently believe that the combination of an upgraded early warning radar network, aircraft deployments within easy reach of the Moroccan border, and a more modern interceptor force are sufficient to contain a potential Moroccan

air attack. The fact that ground-based air defenses are relatively rare for strategic installations, including Algiers, reflects this confidence.

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In our judgment, however, the Algerian and Moroccan services probably are not so different in their capabilities to employ their weaponry, particularly in aerial combat maneuvers. At the same time, the Moroccans probably have a slight edge in close air support and ground attack operations because of experience gained in the long war in Western Sahara. The Moroccans probably also are more adept at employing electronics countermeasures because of their experience in defending against Polisario surface-to-air missile units. [redacted]

The modernization program has increased Algeria's options for using the Air Force for foreign missions, although Algiers has made clear that it considers this a secondary asset. Algeria was the only Arab country to send an expeditionary force—a small air contingent—to aid Egypt during the Arab-Israeli war of 1967. It again sent combat aircraft in 1973, but US Embassy reports suggest that the Algerians generally view such actions as limited to extreme situations. [redacted]

Unlike Morocco, which has deployed forces to African and Persian Gulf countries for political and economic reasons, and the Libyans, who use airpower more liberally, the Algerians are generally reluctant to open themselves to charges of neocolonialism or meddling, particularly when there is a risk of involving great powers. The only recent instance of such activity occurred in early 1982 when Algerian C-130s transported arms and equipment to Chad to support then President Goukouni. Algiers justified this action as support for a legitimate government [redacted]

If the Algerians wanted to project military power beyond their borders, the reequipped Algerian Air Force would be a key component. Elements of the Army's parachute brigade, for instance, could be ferried by C-130s to designated trouble spots. In the event that an Algerian expeditionary force became involved in another Arab-Israeli war, the C-130s would probably be pressed into service to transport men and materiel. Algiers could also provide a few squadrons of fighter aircraft to reinforce an ally's defenses. [redacted]

Prospects

There are shortcomings in the Air Force's capabilities that are unlikely to be eliminated soon. Poor maintenance practices probably will persist because of the shortage of skilled technicians and, to some extent, disdain for mechanical chores. As a consequence, combat readiness is likely to continue to suffer, and the Algerians will remain reliant on foreign technicians. None of the Air Force's deficiencies, however, is serious enough to detract significantly from Algeria's overall military lead over Morocco. [redacted]

The Air Force is unlikely to make wholesale changes in its inventory in the next few years. All signs indicate that the only big purchases will be new Western trainers and helicopters, although Algiers may delay making the final choices, if past practice holds true. Outdated aircraft—older MIG-21s, the MIG-17s, AN-12s, and Fouga Magisters—will gradually be retired, and within a couple of years the bulk of the aircraft in service probably will be 1975 or later vintage. [redacted]

Regardless of wishes to be more independent of its Soviet supplier, the Algerian Air Force is essentially committed to being predominantly Soviet armed for the next decade, unless Algiers is willing to incur substantial financial costs to reequip. The Algerians may complain about their Soviet hardware— [redacted]

[redacted]—but the Air Force is unquestionably more powerful than it was a decade ago, and the improvements cost less money than if Algiers had bought Western equipment. [redacted]

Algeria may well buy more Soviet aircraft in the next few years. Moscow, evidently sensitive to critical comments by clients about its longstanding practice of exporting less sophisticated models, has become more willing in recent years to release versions identical to those in use in Warsaw Pact countries. We believe the

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threat of losing sales to Western manufacturers could prompt the Soviets to be more accommodating to the highly valued Algerians because Algiers can pay hard currency for its purchases. [REDACTED]

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Algiers' desire for higher quality products, meanwhile, probably will work to the benefit of US-Algerian relations. The Algerians were heartened by the sale of C-130s to Algiers at a time when Morocco was receiving approval to buy another 108 US-made M-48 medium tanks. US Embassy reports suggest that for the Algerians, this was evidence that the United States was attempting to be more evenhanded, although they also recognized the special nature of US-Moroccan ties. Algeria evidently has been pleased with the US equipment and support it has received, and it appears likely to continue seeking American aviation assistance [REDACTED]

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